BOOK REVIEWS

TEXTBOOK OF BIOCHEMISTRY—Edward Staunton West, Ph.D., Professor of Biochemistry, University of Oregon Medical School; and Wilbert R. Todd, Ph.D., Associate Professor of Biochemistry, University of Oregon Medical School. The Macmillan Company, 1951. 1,345 pp. $12.00.

This book should rapidly become the most quoted American textbook of biochemistry, not only because it is the most comprehensive of the recent books in this field, but also because it is interestingly and clearly written. It is distinctly a treatise on the chemistry of biological compounds rather than on chemical physiology, although there is enough discussion of the latter to show the dynamic character of the chemistry of protoplasm. The subject matter is logically arranged, beginning with a brief introductory statement concerning the composition of protoplasm, then five chapters, totaling 150 pages, on physical chemistry as applied to biology. Then follow chapters on the pure chemistry of lipids, carbohydrates, proteins and nucleoproteins which lay the basis for the understanding of the metabolism of these substances and complexes in the body. Chapters XIII to XVIII describe the composition of the body, the digestion and absorption of food and detoxication mechanism. Chapter XIX on the Chemistry of Respiration, Acid-Base Balance, and Electrolyte and Water Balance devotes 68 pages to the correlation of these various factors in body chemistry, with detailed chemical and mathematical formulas to describe the reactions. This chapter will be difficult for the medical student to grasp in the short time permitted in the medical curriculum for the study of biochemistry, but for graduate students and for research workers and scholars, it is a very valuable portion of the book. By contrast, the succeeding Chapter XX, entitled "Energy Metabolism," devotes very little space to mathematics, but is a clear description of the factors involved.

The biological role, as well as the pure chemistry of the vitamins, is clearly described in 123 pages in Chapter XXI. Chapter XXII on Biological Oxidation and Reduction is another mathematical discussion which requires patient reading and a considerable appreciation of physical chemistry to understand. The remaining chapters on metabolism of food constituents and products of digestion are well written and include modern concepts of the chemical reactions of intermediary metabolic products, although Figure 63, which attempts to summarize the breakdown of glucose is too complex to be comprehended without long study. Chapter XXXII on Urine Formation and Composition is a fine contribution to the literature on this subject and discusses just enough of the physiology of the kidney to explain the composition of the urine.

Especially outstanding features of the book are the manner of discussion of the chemistry of lipids, carbohydrates and protein, with profuse use of structural formulas and the chemical logic to substantiate the proposed structures; many excellent tables such as those on molecular weights and isoelectric points for proteins, composition of blood and normal ranges of concentrations of a large number of blood constituents, biological values of food proteins, the integration of fat, protein and carbohydrate metabolism through the tricarboxylic acid cycle; an excellent discussion of the biochemistry of experimental and human diabetes and of the effects of insulin; the clear discussion of transamination and transmethylation; the metabolism of alcohol and mineral metabolism. The chapter on hormones, however, is far too brief, although accurate as far as it goes and the chapter on antimetabolic agents is truly disappointing, in that it includes a discussion of sulfonamides, antibiotics, insecticides and herbicides without giving much information as to the antimetabolic mechanisms, and there is no discussion at all of the anti-cancer agents such as nitrogen mustards and folic acid antagonists nor of the other anti-vitamin compounds.

Although the book is arranged logically, the reviewer would rather have found a more pedagogical arrangement; for example, Chapter XIII on the Composition of Tissues would have been better as an amplification of Chapter I and would have made more clear to the student the importance of the following chapters on physical chemistry and on the chemistry of bodily constituents. As the book now stands, there is not the motivation of an understanding correlation to make these otherwise "dry chapters" interesting.

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OBSTETRICAL PRACTICE—Fifth Edition—Alfred C. Beck, M.D., Professor Emeritus of Obstetrics and Gynecology, State University of New York, College of Medicine, at New York City. The Williams and Wilkins Company, Baltimore, 1951. 1073 pages. $10.00.

This is an excellent textbook of obstetrics, simply and concisely written. In a brief preface the author outlines the revisions and additions made since the fourth edition was published in 1947. These include newer concepts of the following: Development of the ovaries, the life-cycle of the corpus luteum, the histology of the endometrium and vascular changes in relation to hormone influences, and the implantation and development of the fertilized ovum. Chapter V on the physiology of the placenta and Chapter VI on the physiology of the fetus have been rewritten. The chapter on the physiology of the maternal organism during pregnancy includes recent findings regarding the uterine musculature and fluid balance. There is an excellent summary of the hormone shifts in pregnancy. The newer tests for pregnancy, including the frog test and the rapid rat test, are outlined in Chapter VII.

The material on the management of pregnancy is notable for its specific outline of dietary needs. The actual foods and amounts necessary to meet these needs are given.

The discussion of pelvimetry is up to date and includes both the Thoms and the Caldwell Moloy techniques and nomenclature. The inadequacy of external pelvimetry is emphasized.

The two chapters on hyperemesis gravidarum and preeclampsia and eclampsia clearly and concisely outline the available knowledge regarding the etiology and treatment of these puzzling conditions. The references are comprehensive. Under the heading of medical complications is a discussion of the Rh factor, abbreviated, but adequate.

Other subjects which have been brought up to date in this textbook are the treatment of trichomonas and yeast infections in pregnancy, and the use of intravenous drip pituitary solution to stimulate uterine contractions. Mention is made of anticoagulant therapy in thromboembolism. A. B. Johnson's technique for handling inversion of the uterus by pushing the whole mass high into the abdomen and holding it there until the uterine ligaments slowly unfold is credited as being a contribution.

The two tables in the chapter on puerperal infection, giving the relation of anemia to postpartum morbidity and of various delivery manipulations and procedures to morbidity, respectively, are thought-provoking.

The book is not above criticism. The local antiseptics mentioned, iodine and chlorothymol, are rarely used and there are a wealth of new and more adequate solutions. Although the use of penicillin, streptomycin, aureomycin and sulfa is given, the later, broader spectrum antibiotics are not mentioned.

The material on repair of lacerations and episiotomies is very limited.

In the description of cesarean section there is no mention of the transperitoneal transverse opening of the uterus which has gained popularity in many sections. The use of spinal anesthesia is given very little support. No mention is made of fetal abnormalities or of circumcision techniques. Moreover, the hazard of thromboembolic accidents following myomectomy at the time of cesarean section is not mentioned, and one could wish for a more detailed discussion of anticoagulant therapy.

However, the text is well arranged and well written, and the plates and charts are clear and to the point. Especially commendable is the arrangement of the historical data, biographical notes and pictures of the great men who have contributed to our knowledge and techniques. These are placed at the beginning or end of appropriate chapters without interfering with the text.

The appendix consists of 22 excellent x-ray reproductions covering the following subjects: Pelvimetry, presentations, multiple pregnancies, fetal anomalies and urological changes.

It is a valuable book for both students and practitioners.

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BACTERIAL AND VIRUS DISEASES: Antisera, Toxoids, Vaccines and Tuberculins In Prophylaxis and Treatment — H. J. Parish, M.D., F.R.C.P.E., D.P.H., Clinical Research Director, Wellcome Foundation Ltd. Second edition. The Williams and Wilkins Company, Baltimore, 1951. 204 pages. $2.50.

This little book is intended to be a brief guide to the use of biologics for the prevention or treatment of infectious disease. Brief descriptions of the histories of the development of many of the products and of the methods of preparation are included. It reflects essentially the points of view of the Wellcome Foundation in England. An excellent index makes the useful information in the book readily accessible.

The development of antimicrobial chemotherapy has superseded most of the antibacterial sera in therapy and this fact is recognized in the brief space devoted to them. The chapter might well be omitted.

Many of the other substances described for treatment and for the production of active immunity are of no or questionable value. Critiques permitting the inexperienced physician to choose between valuable or essential procedures and those without merit are not supplied. It would be necessary for him to consult other texts for this information. Most of these would contain descriptions of the techniques for the use of the effective biological materials. This book will be of little value to the practicing physician and is not sufficiently detailed and critical to find a place in the library of medical student or investigator.

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A MANUAL OF ORTHOPTICS—Julia E. Lancaster, M.A., San Francisco Ophthalmic Laboratory, San Francisco. Charles C. Thomas, Publisher, Springfield, Illinois, 1951. 199 pages. $5.50.

This book has 191 pages of subject matter and is quite unique in that as a treatise on orthoptics it is a pioneer.

The book is divided into 18 chapters beginning with the functional development of visual skills in the child. The last chapter deals with orthoptics in the adult.

Between these two chapters the teaching of visual skills is very well handled, especially since this is a pioneer effort. In a later edition, some of the redundant material can be eliminated.

This book gives a practical approach to the evaluating and the development of visual skills both with and without the aid of surgery and of refraction. Since the work is largely with children, the proper handling and evaluating of a child is carefully and ably discussed. The varied forms of treatment are clearly given and could be followed with reasonable ease.

The discussions of anomalous correspondence, physiologic and non-physiologic diplopia, and suppression should be read by all ophthalmologists. The discussions are lucid and in the reviewer's opinion would be extremely valuable to the surgeon in his diagnosis, his evaluation of treatment, and his prognosis in each tropia case.

The chapters on treatment are easily comprehended and should be read by ophthalmologists as well as orthoptic technicians in order to better coordinate their treatment of their mutual cases.

The reviewer may be over-enthusiastic about this book, but he feels that it fills a much neglected area of understanding in the field of ophthalmology.

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THE CHANGING YEARS — Madeline Gray. Doubleday & Company, Inc., 1951. 224 pages. $2.75.

The expressed purpose behind the production of this volume is certainly an admirable one. Every physician is recurrently appalled at the ignorance shown by women regarding their menstrual function, and in no facet is this more pronounced than in that part of the menstrual function which occurs at the time of the menopause. Undoubtedly this ignorance is the product of the taboos with which mankind, civilized and uncivilized, has been accustomed to surround sexual matters in general, especially those involving the female. Thus a simple explanation of the body physiology as it relates to menstruation, and in particular as it changes at the time of the menopause, is of great value.

It appears, from the long list of physicians and publications which the author has consulted and which is included in a separate section at the back of the book, that considerable time and effort have been expended in the preparation of "The Changing Years," and it is unfortunate that a better understanding of some of the matters which were heard and read was not gained before they were set down in black and white. A number of gross anatomicophysiological errors are evident, and some concepts which are presented as fact are in reality still the subject of considerable discussion and controversy. To the physician these defects are distracting, and detract from the value of the book as a whole. In the lay mind the menopause is already surrounded by so much superstition and fancy that one hesitates to recommend any statement which might tend to increase the confusion in the mind of an uncritical reader.

However, it would appear that by and large the great majority of women might well derive considerable degrees of comfort from the presentation of the subject as a whole. Great benefit should accrue from the attitude that the menopause is not a "change of life" in the sense that such an expression implies a total change of direction, but that it is simply one more of the progressive steps through which one inevitably passes during the course of life. The specific reassurances that the menopause does not necessarily mean cancer, or loss of sexual power and drive, or the approach to insanity, or any one of a host of other unpleasantnesses should bring readers a sense of relaxation which will tend to help them weather whatever difficulties their individual menopauses may produce.